

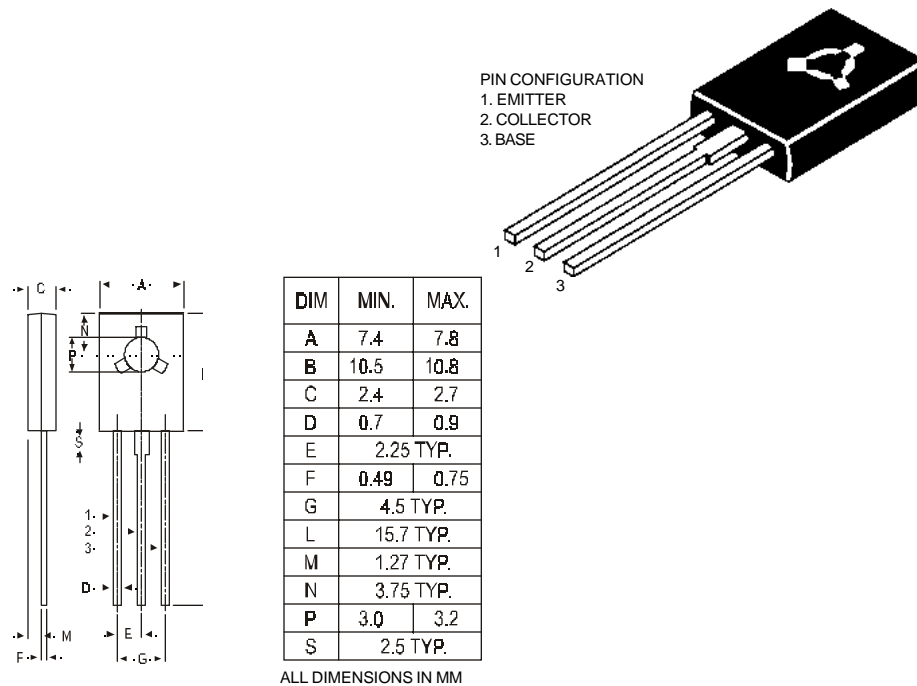
**TO-126 (SOT-32) Plastic Package**

**C43C2**

**C43C2 PNP PLASTIC POWER TRANSISTOR**

Complementary C42C series

General Purpose Applications



**ABSOLUTE MAXIMUM RATINGS**

Collector-emitter voltage ( $V_{BE}=0$ )	$V_{CES}$	max.	40 V
Collector-emitter voltage (open base)	$V_{CEO}$	max.	30 V
Collector current	$I_C$	max.	3 A
Total power dissipation up to $T_C = 25^\circ C$	$P_D$	max.	12.5 W
Junction temperature	$T_j$	max.	150 °C
Collector-emitter saturation voltage $I_C = 1 A; I_B = 50 mA$	$V_{CESat}$	max.	0.5 V
D.C. current gain $I_C = 200 mA; V_{CE} = 1 V$	$h_{FE}$	min.	40
		max.	120

**RATINGS (at  $T_A=25^\circ C$  unless otherwise specified)**

<b>Limiting values</b>			
Collector-emitter voltage ( $V_{BE}=0$ )	$V_{CES}$	max.	40 V
Collector-emitter voltage (open base)	$V_{CEO}$	max.	30 V
Emitter-base voltage (open collector)	$V_{EBO}$	max.	5.0 V
Collector current (DC)	$I_C$	max.	3.0 A

## C43C2

Collector current (Peak)*	$I_{CM}$	max.	5 A
Base current	$I_B$	max.	2 A
Total power dissipation up to $T_A = 25^\circ\text{C}$	$P_D$	max.	2.1 W
Total power dissipation up to $T_C = 25^\circ\text{C}$	$P_D$	max.	12.5 W
Junction temperature	$T_j$	max.	150 °C
Storage temperature	$T_{stg}$		-65 to +150 °C

### THERMAL RESISTANCE

From junction to case	$R_{th\ j-c}$	=	10 °C/W
From junction to ambient	$R_{th\ j-a}$	=	60 °C/W

### CHARACTERISTICS

$T_C = 25^\circ\text{C}$  unless otherwise specified

Collector cutoff current $V_{BE} = 0$ ; $V_{CE} = \text{Rated } V_{CES}$	$I_{CES}$	max.	10 $\mu\text{A}$
Emitter cut-off current $I_C = 0$ ; $V_{EB} = 5\text{ V}$	$I_{EBO}$	max.	100 $\mu\text{A}$
Breakdown sus. voltage $I_C = 100\text{ mA}$ ; $I_B = 0$	$V_{CEO(sus)}^*$	min.	30 V
Saturation voltages $I_C = 1\text{ A}$ ; $I_B = 50\text{ mA}$	$V_{CESat}^*$	max.	0.5 V
$I_C = 1\text{ A}$ ; $I_B = 100\text{ mA}$	$V_{BESat}^*$	max.	1.3 V
D.C. current gain $I_C = 200\text{ mA}$ ; $V_{CE} = 1\text{ V}$	$h_{FE}^*$	min.	40
		max.	120
$I_C = 1\text{ A}$ ; $V_{CE} = 1\text{ V}$	$h_{FE}^*$	min.	20
Transition frequency $I_C = 20\text{ mA}$ ; $V_{CE} = 4\text{ V}$	$f_T$	typ.	40 MHz
Collector capacitance $V_{CB} = 10\text{ V}$ ; $I_E = 0$ ; $f = 1\text{ MHz}$	$C_{cbo}$	max.	125 pF
<b>Switching time</b>			
Delay time + Rise time $I_C = 1\text{ A}$ ; $I_{B1} = I_{B2} = 0.1\text{ A}$	$t_d + t_r$	typ.	50 ns
<b>Storage time + Fall time</b>			
$V_{CC} = 30\text{ V}$ ; $t_p = 25\ \mu\text{sec}$	$t_s$	typ.	500 ns
	$t_f$	typ.	50 ns

\* Pulsed test:  $P_W = 300\text{ ms}$ ; duty cycle = 2%.

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**Continental Device India Limited**

C-120 Naraina Industrial Area, New Delhi 110 028, India.  
Telephone + 91-11-2579 6150, 5141 1112 Fax + 91-11-2579 5290, 5141 1119  
email@cdil.com www.cdilsemi.com